

## Factors Influencing Nurses` Performance towards Caring of Pediatric Patients with Respiratory Disorders

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### Abstract

**Background:** Respiratory disorders are the most common causes of illness and hospitalization in children. These illnesses range from mild, non-acute disorders, to acute disorders such as bronchiolitis, to chronic disorders such as asthma. **Aim:** This study aimed to assess the factors influencing nurses` performance towards caring of pediatric patients with respiratory disorders. **Research Design:** A descriptive design used to achieve the aim of this study. **Subjects:** A purposive sample consisted of 151 nurses; 68 nurses from pediatric hospital that affiliated to Ain Shaim University hospitals, and 83 nurses from Damanhur University hospitals, **Tools of date collection:** A predesigned questionnaire sheet to assess characteristics of the nurses, to assess the nurses knowledge about respiratory disorders in pediatrics, and factors influencing nurses` performance towards caring of pediatric patients with respiratory disorders. In addition, observational checklists, to assess the nurses` practices **Results:** Two thirds of studied nurses had poor level of knowledge regarding respiratory disorders in pediatrics, and near to two thirds of studied nurses had a competent practice regarding caring for pediatric patients with respiratory disorders. **Conclusion:** Based on the present study findings it can be concluded that, communication with patient` information factors and organizational factors are more factors that influencing the nurses` performance towards caring pediatric patients with respiratory disorders. **Recommendation:** Periodical assessment in health care settings for factors that influencing care of pediatric patients with respiratory disorders.

**Key words:** Factors influencing, Nurses` performance, Pediatric patients and Respiratory disorders.

### Introduction:

Pediatric respiratory disorders constitute a significant health problem, with prevalence standing at 23%. At least 50% of children less than 6 years of age have experienced wheezing episodes in their lives. Asthma attacks are considered one of the main medical emergencies in pediatrics and account for about 5% of the reasons for emergency department visits (*Diagnosis and Therapeutic Protocols in Pediatric Emergencies, 2022*).

Respiratory disorders are the most common causes of illness and hospitalization in children. These illnesses range from mild, non-acute disorders such as the common cold or sore throat, to acute disorders such as bronchiolitis, to chronic conditions such as asthma, to serious life-threatening conditions such as epiglottitis (*Howley, 2022*).

Nursing care for pediatric patients is an important line like medical treatment because

nursing care maintains the link between medical treatment and intervention for patient`s problems. But nursing care may be influencing by some factors (*Howley et al., 2022*).

Nurses' performance means the actual conduct of activities to meet responsibilities according to standards. It is an indication of what is done and how well it is done and focusing attention on the total behavior of nurses and the use of specialized knowledge and skills that acquired through training as well as integration of practice. The Performance obstacles can be defined as the work factors in the work setting that increase their workload beyond what is expected that negatively affect their quality of work life (*Ayed et al., 2016*).

The factors that influence the nursing performance in caring of pediatric patients with respiratory disorders include; environmental factors, organizational factors, coordination and communication factors and patient`s

information factors. Also, it includes the consistency of caregivers, nurse-patient relationship and sufficient time, personal attributes, personality, attitude, caring with empathy and compassion technical skills (*Shah et al., 2018*).

### **Significance of the study:**

According to National Control of Diarrheal Diseases Program (NCDDP) (2015), there is a general agreement that childhood mortality in Egypt has substantially declined during the last two decades, while, diarrheal diseases (39.4%), respiratory disorders (26.8%), combined episode of both (5.1%). So, respiratory diseases is the second cause for childhood mortality by wrong diagnosis and wrong treatment that leads to, dangerous complications that affected the main organs in the body such as brain and heart (**National Control of Diarrheal Diseases Program, 2015**).

In Egypt, pediatric respiratory diseases constitute, 4.1% of infants under 2 months old, 29.9% under 11 months of age, 66% in the age of 1-4 years, Severe pneumonia (2.9%), Pneumonia (9.9%), Otitis media (10.7%), Pharyngitis (22.8%), asthma (4.8%); and Bronchitis (48.1%) (**ElMashad, Mahmoud & Abdel Hafez, 2018**).

Despite nurses' performance is important for care of pediatric patients with respiratory disorders, some factors may affect the given care. These factors may be related to the organizational setting, nurses' knowledge and practice and the pediatric patients themselves. Therefore the present study aimed to assess the factors influencing nurses' performance towards caring of pediatric patients with respiratory disorders.

### **Aim of the study:**

This study aimed to assess the factors influencing nurses' performance towards caring of pediatric patients with respiratory disorders.

### **Research Questions:**

- What is the level of nurses' knowledge about the care of pediatric with respiratory disorders?

- What is the level of nurses' practices regarding the care of pediatric patients with respiratory disorders?
- What are the factors that influencing nurses' performance towards caring of pediatric patients with respiratory disorders?

### **Subject and Methods**

#### **Research Design:**

Descriptive design was used to achieve the aim of this study.

#### **Study Settings:**

This study was carried out at Emergency Department, Pediatric Department and Pediatric Intensive Care unit in Pediatric Hospital that affiliated to Ain Shaim University Hospitals and Damanhur University hospital

#### **Subject:**

Purposive sample was consisted of 151 nurses; 68 nurses from Pediatric Hospital that affiliated to Ain Shaim University and 83 nurses from Damanhur University Hospital were recruited under the following criteria

#### **The inclusion criteria**

Nurses allowed to provide direct care for pediatric patient with respiratory disorders

#### **The Exclusion Criteria**

Newly employed nurses in previously mentioned setting.

#### **Tools of Data Collection:**

Data was collected through using two tools.

#### **I- A predesigned questionnaire sheet**

It was designed by the researcher after reviewing the related National and International literature, it was written in simple Arabic language to suit nurses' level of understanding, it was consisted of the following three parts.

**Part I:** It was concerned with the characteristics of study subjects including age, level of education, years of experience and their attainment previous training; it was consisted of (7 questions).

**Part II:** It was related to nurses' knowledge about pediatric respiratory disorders,

definition, types, causes, risk factors, mechanical ventilator, and nursing care for pediatric patients with respiratory disorders, it was consisted of (85 questions).

#### ❖ Scoring system:

A scoring system was followed to assess nurses' knowledge about pediatric respiratory disorders and nursing care for pediatric patients with respiratory disorders. The correct answer was scored 1 grade and the incorrect answer was scored zero. These scores were summed and were converted into a percent score and accordingly the nurses' total knowledge was classified into three categories:

- Score <60% considered poor knowledge
- Score from 60% to ≤ 75% considered average knowledge
- Score ≥ 75% considered good knowledge.

**Part III:** It was related to nurses' knowledge about the factors influence nurses' performance regarding care of pediatric patients with respiratory disorders includes environmental factors (7 items), organizational factors (9 items), communication with patients' information factors (6 items) and Evaluation and developing methods skills factors (7 items).

#### ❖ Scoring system:

A scoring system was followed to assess factors influencing nurses' performance towards caring of pediatric patient with respiratory disorders. The influencing factors were scored 1 grade and the non-influencing factors was scored zero. These scores were summed and were converted into a percent score and accordingly the nurses' total knowledge was classified into two categories:

- Score <60% considered non- influencing factors
- Score ≥ 60% considered influencing factors

#### II-Observational checklists:

It was adapted from *Aylott, (2013)* and *Cameron et al. (2015)*, to assess nurses' practice to words caring of pediatric patients with respiratory disorders. It was consisted of 7 procedures (115 steps), include oxygen therapy (16 steps), nebulizer therapy (11 steps), care of endotracheal tube (16 steps), oral hygiene (17 steps), endotracheal tube suctioning (24 steps),

nasopharyngeal suction (22 steps), and breathing exercise (9 steps).

#### ❖ Scoring system:

A scoring system was followed to assess nurses' practices; each step was done correctly was scored one grade, while each step done incorrectly or not done was scored zero. The score of steps was summed-up and divided by the number of the steps, giving a mean score. These scores were converted into a percent score and classified as the following:-

- Incompetent: score < 80%
- Competent: score ≥ 80%

#### II-Operational Design:

The operational design includes preparatory phase, content validity and reliability, pilot study and field Work

#### Preparatory phase

During this phase, the study tool was prepared through reviewing the available local and international related literature to be oriented with the various aspects of the research problem

#### Content validity and Reliability

It was ascertained by a group of three expertise from pediatric and nursing staff to review the tools for clarity, relevance, comprehensiveness, understandable and applicability. Reliability of the study tools tested and ascertained by statistical analysis to examine its reliability. Cronbach's Alpha: for questionnaire= 0.79 and for observational checklist= 0.86.

#### Pilot study

It was carried out on 10% (15 nurses) of the study subject in the previously mentioned setting, in order to test the applicability of the constructed tools and the clarity of the included questions related to nurses' knowledge regarding to pediatrics respiratory disorders. The pilot study has also served to estimate the time needed for each nurse to fill in the questions. According to the results of the pilot, no corrections or omissions of items were performed so the nurses in the pilot study were included in the main study sample.

### Field Work

The actual field work was carried out over 6 months (3months in pediatric hospital that affiliated to Ain Shaim University and 3 months in pediatric hospital that affiliated to Damanhur University hospital) period started from the beginning of December 2020 till the end of May 2021 the researcher was available in each study settings two days weekly by rotation during morning shift during providing direct care to pediatrics patients.

The researcher was introduced herself to the study subject and explained the purpose, important and aim of the study to all nurses before starting the data collection, each nurse was fill the questionnaire sheet individually for 20 minutes to identify level of knowledge and their practices were observed 2 times during actual care in morning shift for 20 – 30 minutes .

### III-Administration Design:

An official permission to carry out the study was obtained by submission of a formal letter issued from the Dean of Faculty of Nursing, Ain Shams University to the director of each of the previously mentioned settings to collect the necessary data for the current study after a brief explanation of the purpose of the study and its expected outcomes.

### Ethical Considerations:

Ethical approval was obtained from the scientific ethical committee of Faculty of Nursing, Ain Shaim University. the researcher was clarified the objective and aim of the study to the nurses included in the study before starting and oral approval was obtained from the nurses before inclusion in the study; a clear and simple explanation was given according to their level of understanding. They secured that all the gathered data was confidential and used for research purpose only. The researcher was assuring maintaining anonymity and confidentiality of subjects` data included in the study. The subjects were informed that they are allowed to choose to participate or not in the study and they have the right to withdrawal from the study at any time.

### IV-Statistical Design:

Data collected from the studied sample was revised, coded and entered using PC. Computerized data entry and statistical analysis were fulfilled using the statistical package for social sciences (SPSS) version 20. Data were presented using descriptive statistics in the form of frequencies, percentages. Chi-square test (X<sup>2</sup>) used for comparisons between qualitative variables. So, the p-value was considered significant as the following:

- P-value <0.05 was considered significant.
- P-value <0.001 was considered as highly significant.
- P-value >0.05 was considered insignificant.

### The main findings of this study were summarizes as follows:

**Table (1):** Shows that about two fifths (41.7%) of the studied nurses, were in the age group 20; <30 years old with mean age 26.96± 8.613 year; Also, more than half 53.6% of them were graduated from technical institute of nursing, works at Pediatric ICU and 43% of the studied nurses didn`t attended training programs about pediatrics` respiratory disorders.

**Figure (1):** Shows that almost two thirds (66.9%) of studied nurses had poor level of knowledge regarding respiratory disorders in pediatrics Meanwhile, 18.5% and 14.6% of them had average and good level of knowledge.

**Figure (2):** Shows that 86.1% and 83.4% of studied nurses mentioned that communication of patients` information factors and organizational factors influencing their performance respectively. While environmental factors and evaluation and developing methods skills were mentioned by 66.2% and 66.9% of the studied nurses` respectively.

**Figure (3):** Shows that more than two thirds (67.5%) of studied nurses had a competent level of practice regarding caring for pediatric patients with respiratory disorders.

**Table (2):** Shows that, there is statistical significant difference between studied nurses` total level of knowledge and their characteristics (p-value ≤0.05) except for age and years of experience, there are highly

statistically significant difference (p-value  $\leq$  0.001).

**Table (3):** Shows that, there are statistical significant difference between studied nurses' total level of practices and their characteristics (p-value  $\leq$ 0.05\*) except for years of experience, there are a highly statistically significant difference (p-value  $\leq$ 0.0001\*\*).

**Table (4):** Shows that, there is strong positive correlation between total knowledge level and total practice of studied nurses regarding factors influencing nurses`

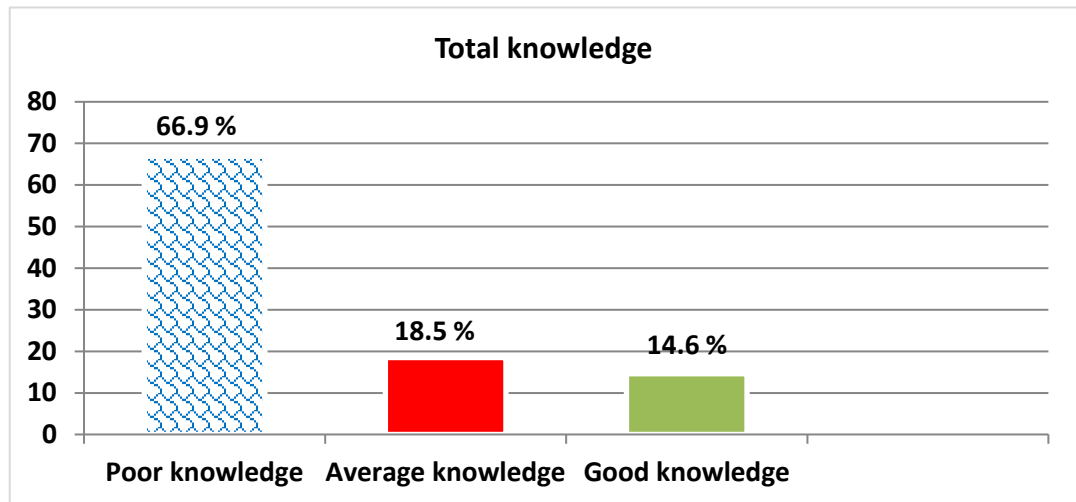
performance towards caring of pediatric patients with respiratory disorders.

**Table (5):** Shows that, there is a positive correlation between total knowledge level and factors influencing nurses` performance towards caring of pediatric patients with respiratory disorders.

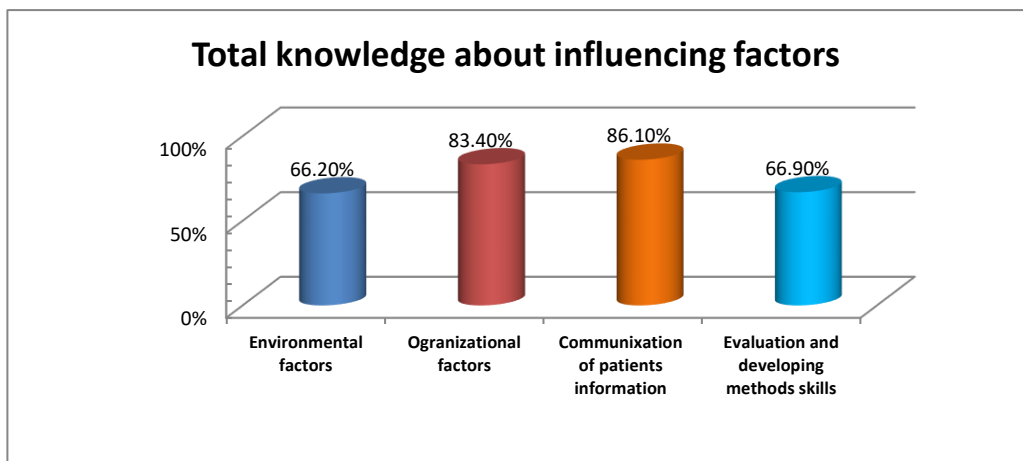
**Table (6):** Shows that, there is a positive correlation between total practices level and total factors influencing nurses` performance towards caring of pediatric patients with respiratory disorders.

**Table (1):** Distribution of studies nurses according to their characteristic. (n=151).

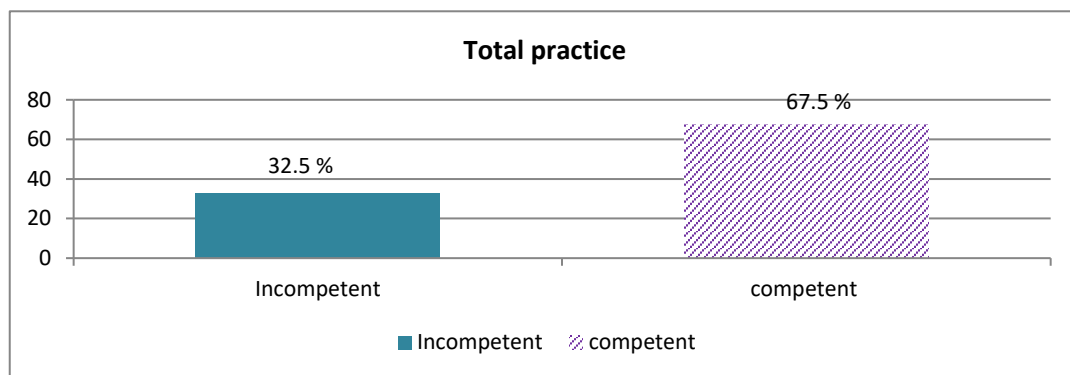
Characteristics	(No)	%
<b>Age/ year</b>		
20>	34	22.5
20 : <30	<b>63</b>	<b>41.7</b>
30 : <40	44	29.2
40 $\leq$	10	6.6
Mean= 26.96 SD $\pm$ 8.613		
<b>Education degree:</b>		
Diploma	20	13.3
Technical institute	<b>81</b>	<b>53.6</b>
Bachelor	50	33.1
<b>Years of experience:</b>		
< 5ys.	43	28.5
5ys: < 10 ys.	<b>61</b>	<b>40.4</b>
10ys : <15ys	36	23.8
15 $\leq$	11	7.3
Mean= 7.997 SD $\pm$ 6.735		
<b>Place of work</b>		
Emergency Department	40	26.5
In patient Department	30	19.9
Pediatric Intensive Care Unit	<b>81</b>	<b>53.6</b>
<b>Attending training programs about pediatrics' respiratory disorders</b>		
Yes	86	57
No	<b>65</b>	<b>43</b>



**Figure (1):** Distribution of studied nurses according to their total knowledge regarding respiratory disorders in pediatrics. (n=151).



**Figure (2):** Distribution of studies nurses according to total knowledge about factors that influencing their performance towards caring of pediatric patients with respiratory disorders. (n= 151)



**Figure (3):** Distribution of studied nurses according to their total level of practice regarding caring of patients with respiratory disorders.

**Table (2):** Relation between nurses' characteristics and their total level of knowledge regarding to respiratory disorders in pediatric patients. (n= 151)

Characteristics Knowledge	Poor (n=101)		Average(n=28)		Good (n=22)		Chi-square	P-value
	N.	%	N.	%	N.	%		
<b>Age:</b>								
Less than 20 years	21	20.8	8	28.6	5	22.7	<b>24.539</b>	<b>.000**</b>
20 years > 30 years	41	40.6	10	35.7	12	54.5		
30 years >40 years	36	35.6	3	10.7	5	22.7		
40 years & more	3	3.0	7	25.0	0	0.0		
<b>Education degree:</b>								
Diploma	10	9.9	4	14.3	6	27.3	<b>9.733</b>	<b>0.045*</b>
Technical	62	61.4	11	39.3	8	36.4		
Bachelor	29	28.7	13	46.4	8	36.4		
<b>Years of experience:</b>								
Less than 5y	35	34.7	7	25.0	1	4.5	<b>49.006</b>	<b>.000**</b>
5years > 10years	48	47.5	7	25.0	6	27.3		
10y ears >15years	15	15.8	13	46.4	7	31.8		
15 years & more	2	2.0	1	3.6	8	36.4		
<b>Attending training programs about respiratory disorders in pediatrics</b>								
Yes	61	60.4	14	50.0	7	31.8	<b>6.202</b>	<b>0.045*</b>
No	40	39.6	14	50.0	15	68.2		

Sig. <0.05 \* High sig. <0.001\*\*

**Table (3):** Relation between nurses' characteristics and their total Practice regarding caring of patients with respiratory disorders in pediatric patients. (n= 151).

Characteristic Practice	Incompetent (n=49)		Competent (n=102)		Chi-square	P-value
	N.	%	N.	%		
<b>Age:</b>						
Less than 20 years	16	32.7	18	17.6	8.273	0.041*
20 years > 30 years	19	38.8	44	43.1		
30 years >40 years	14	28.6	30	29.4		
40 years & more	0	0.0	10	9.8		
<b>Education degree:</b>						
Diploma	12	24.5	8	7.8	10.201	0.006*
Technical	19	38.8	62	60.8		
Bachelor	18	36.7	32	31.4		
<b>Years of experience:</b>						
Less than 5y	10	20.4	33	32.4	20.105	0.000**
5years > 10years	16	32.7	45	44.1		
10y ears >15years	13	26.5	23	22.5		
15 years & more	10	20.4	1	1.0		
<b>Attending training programs about respiratory disorders in pediatrics</b>						
Yes	32	65.3	50	49.0	3.538	0.043*
No	17	34.7	52	51.0		

Sig. <0.05 \* High sig. <0.001\*\*

**Table (4):** Correlation between total level of knowledge and practice of studied nurses. (n=151).

Items	Total knowledge
Total practice	r. = 0.608** p. value =0.000**

Significance ( $p \leq 0.05^*$ ), high significance ( $p \leq 0.001^{**}$ ) r=correlation coefficient

**Table (5):** Correlation between total knowledge and total factors' parts influence the nurses' performance towards caring of pediatric patients with respiratory disorders.

Items	Total knowledge
Environmental factors	r. = 0.407** p. value =0.000**
Organizational factors	r. = 0.240* p. value =0.001**
Communication of patients' information	r. = 0.209* p. value =0.01*
Evaluation and developing methods skills	r. = 0.418** p. value =0.000**
Total factors influencing nursing performance	r. = 0.240** p. value =0.001**

Significance ( $p \leq 0.05^*$ ), high significance ( $p \leq 0.001^{**}$ ) r=correlation coefficient

**Table (6):** Correlation between total practices and total factors' parts influence the nurses' performance towards caring of pediatric patients with respiratory disorders.

Items	Total practices
Environmental factors	r. = 0.495** p. value =0.000**
Organizational factors	r. = 0.309** p. value =0.000**
Communication of patients' information	r. = 0.279** p. value =0.000**
Evaluation and developing methods skills	r. = 0.488** p. value =0.000**
Total factors influencing nursing performance	r. = 0.309** p. value =0.000**

Significance ( $p \leq 0.05^*$ ), high significance ( $p \leq 0.001^{**}$ ) r=correlation coefficient

## Discussion:

Concerning characteristics of studied nurses the results of the present study (Table 1), revealed that more than two fifth of studied nurses were in the age group 20 to <30 years old and more than half of them graduated from technical nursing institute. These results were in agreement with result of Mohamed et al., (2019) who studied "Effect of teaching program on nurses' knowledge and practice regarding measuring end-carbon dioxide by capnography at critical care units" and illustrated that not agree, moreover, more than half of them graduated from Nursing Technician Institute and this could be related to that young and early graduated nurses are assigned to work in critical area such as emergency department and critical

care unit due to their high energy and ability to work hard and also higher age nurses usually considered senior nurses works administrative role. On the other hand, these results were incongruent with result of Goni et al., (2018) whose study entitled assessment of knowledge, attitude and practice towards prevention of respiratory tract infections among Hajj and Umrah Pilgrims from Malaysia and Ali et al., (2019) whose study entitled "Improving nursing knowledge and care for neonates with respiratory distress in Jordan" and cleared that more than two thirds of their sample were aged from 23-33 years old and most of them had Bachelor's degree in nursing.

The results of the present study, (table 1) revealed that about two fifth of nurses had from 5years to less than 10years of experience with mean and only more than two fifth of them



attend training programs about pediatrics' respiratory disorders, these results were congruent with result of **Mwakanyanga et al., (2018)** in study entitled "Intensive care nurses' knowledge and practice on endotracheal suctioning of the intubated patient" and revealed that about one quarter of their sample had from 6 < 10 years of experience and more than two fifth had from 1<5 years of experience, the same author also revealed that more than two fifth of their studied nurses didn't have training courses about practice in management of respiratory disorders.

Regarding nurses' total knowledge about pediatric respiratory disorders **Figure (1)** showed that almost two thirds of studied nurses had poor total knowledge regarding pediatric respiratory disorders whenever and the minority of them good total knowledge. This result was supported by **Ali et al., (2019)** who studied "Improving nursing knowledge and care for neonates with respiratory distress in Jordan." and revealed that more than half of nurses had poor total knowledge regarding pediatric respiratory problems.

Also, this result was in accordance with result of **Houten, (2018)** in a study entitled "Pediatric Respiratory Care Curriculum for Emergency Department Nurses.", they concluded that more than half of their sample had poor knowledge regarding respiratory disorders which affect their practice in caring for patients. this might be due to lack of such knowledge in nurses' curriculum during undergraduate study, lack of in-service training programs, lack of awareness about the importance of such theoretical knowledge and its effect on nursing practice or related to high turn-over of nurses and annual leaves for child care that results in frequent transformation between hospital department according to work needs.

Regarding to total environmental factors influencing nurses' performance towards caring of pediatric patients with respiratory disorders **figure (2)** revealed that nearly two thirds of studied nurses mentioned that environmental factors influence their performance towards caring of pediatric patients with respiratory

disorders, this result was agreed with result of **Wei et al., (2018)** whose study entitled "The state of the science of nurse work environments in the United States" they illustrated that most of their studied sample revealed that environmental factors affecting nurse interpersonal relationships at workplaces, job performance, and productivity. This could be related to insufficiently ventilation in patient` department, lack of spaces between patient` beds, isolation room for infected diseases and lack of training programs

Regarding total organizational factors influencing nurses' performance towards caring of pediatric patients with respiratory disorders **figure (2)** revealed that the majority of studied nurses mentioned that organizational factors influence their performance, this result was in accordance with result of **Miedaner et al., (2018)** who revealed that that most of their studied participants agreed that organizational factors affect their clinical performance. This could be related to unfair to distribution of cases according severity, overcrowding in hospital, unavailability of equipment, searching for supplies and having to wait for medications and hospital policy especially regarding infection control measures are considered performance barriers that negatively affect nurses' satisfaction and performance.

As regards communication with patients' information factors that influencing their performance **Figure (2)** illustrated that the majority of studied nurses mentioned that communication of patient's information influence their performance towards caring of pediatric patients with respiratory disorders, this result was consistent with result of **Woznyj et al., (2019)** whose study entitled "Climate and organizational performance in long-term care facilities: The role of affective commitment "they illustrated that more than two thirds of their participants agreed that adequate communication and sharing of patient's information improve nurses' performance and affect quality of patient care, patient safety, and other patient outcomes. This could be related to lack of patient` information about past medical history, currently disease, unconnected hospital teams (training team, quality team and infection

control team) in training for nurses and lack of communication between medical members in hospital.

Regarding to total factors related to evaluation and developing methods skills factors that influence their performance **figure (2)** indicated that almost two thirds of studied nurses mentioned that evaluation and training of nurses' performance influence their performance, this result was congruent with result of **Behzadi et al., (2019)** who studied "Impact of an education program on the performance of nurses in providing oral care for mechanically ventilated children", they revealed that most of their participants showed that frequent evaluation of their skills and practice positively influence their performance in caring for pediatric children. This could be related to presence of continuous supervision and monitoring of nurses' performance results in adequate care provided and allow the supervisors to modify incorrect nursing practice.

Regarding nurses' total level of practice regarding caring of patients with respiratory disorders, **figure (3)** showed that slightly more than two thirds of studied nurses did a competent practice regarding caring for pediatric patients with respiratory disorders whenever, about one third of them had incompetent total practice. This result was disagreed with results of **Ali et al., (2019)** who studied "Improving nursing knowledge and care for neonates with respiratory distress in Jordan." The study illustrated that the majority of their studied participants had unsatisfactory practice regarding caring of child with respiratory distress. This could be attributed to the unsatisfactory knowledge of the studied nurses which reflects negatively on their practices, in addition to lack of orientation program prior to work in critical areas and shortage of staff nurses specially with Bachelor degree in nursing which lead to work over load in these units. Moreover, unavailability of guideline books, lack of interest, lack of motivation and insufficient financial reward to the nurses, lack of in-service training course and lack of job description. All these contributed to the

unsatisfactory practice level of nurses regarding care of pediatric patients.

Concerning the relation between nurses' characteristics and their total knowledge regarding caring for patients with respiratory disorders, **table (2)** revealed that, there were highly statistically significant relations between studied nurses' total knowledge and age and years of experience as higher age have more years of experience than those with younger age so they have been exposed to such knowledge several times, the study was congruent with results of **Al-garhy et al., (2020)** who studied "Quality of Nursing Care Provided to Neonates Undergoing Mechanical Ventilation: An Assessment Study" and revealed that there was highly statistically significant relation between nurses' years of experience and their total knowledge, also this is agreed with results of **Al-haddad et al., (2016)** who mentioned that years of experience are very important for nurses to increase their knowledge, confidence and skills. this could be attributed to that nurses knowledge increased with increasing years of experience due to exposure to such information during working years and also this was agreed with results of **Al-haddad et al., (2016)** who mentioned that years of experience are very important for nurses to increase their knowledge, confidence and skills.

**Table (2)** also illustrated that there was statistically significant relation between nurses' knowledge and (educational level and years of experience), this result was supported by the results of **Bano et al., (2020)** who reported that, nurses' qualification showed a great impact on their knowledge and skills for patients care and that the effective professional education requires close and more appropriate connection between theory and practice. From the researcher point of view, this could be attributed to that BSC nurses have satisfactory practice rather than diploma and technical nurses. In the researcher point of view this may be due to BSC nurses who have years of studying more than diploma nurses' this make them able to acquire more knowledge and practice.

Concerning relation between nurses' characteristics and their total Practice regarding

caring for patients with respiratory disorders, **Table (3)** showed that, there were a statistical significant relations between studied nurses' total practices and age and high significant relation between total practice and years of experience, the study was agreed with results of **El-garhy et al., (2020)** who revealed that there was significant relation between nurses practice and their age and years of experience. This could be interpreted that appropriate age nurses are able to meet the assuming responsibility and communicate openly with health care providers to improve management and outcome and that older age are usually senior nurses of a higher age category take administrative role and delegate the nursing activities to the junior nurses, so they are far away from the practical field and consequently their mastering skills are decreased or diminished.

**Table (3)** also revealed that there was statistically significant relation between total nurses' practice and their educational level and attendance of training courses. This result was congruent with results of **Hesham, (2017)** who revealed that there was significant relation between nurses' practice and their educational level and attendance of training courses. On the other hand, this result was disagreed with results of **Ali et al., (2019)** who revealed that no significant correlations were found between the major studies variables (knowledge and nursing practice) and the age and working experience of the nurses or the number of courses completed. This could be related to higher education and attendance of training courses could be attributed to that the majority of them acquired their practice from the practical field, nurses who have higher education and attend training courses improve their confidence and skills and consequently improving the quality of care rendered to children.

Regarding correlation between total nurses' knowledge and total practice, **table (4)** revealed that there was positive statistically correlation, this result was in accordance with results of **El-Garhy et al., (2020)** who revealed that there was significant correlation between nurses' knowledge and practice also this result was supported by **Abou-zeid et al., (2019)** who revealed that there was highly statistically

significant correlation between nurses' total knowledge and their practice. This could be explained that nurses who got unsatisfactory knowledge had unsatisfactory practice, this means that the level of nurses' performance depend on the nurses' knowledge. This may be explained that when nurses have adequate knowledge about any procedure practice satisfactory and vice versa when there is a lack of knowledge the practice will be incompetent.

**Tables (5 & 6)** also illustrated that there was significant correlation between total parts of factors affecting nurses' performance and their total (knowledge and practice). This result was agreed with results of **Miedaner et al., (2018)** who revealed that when nurses are satisfied about factors influencing their performance, they could willing to acquire adequate knowledge and skills. from the researcher point of view this could be related to that satisfaction about factors affecting performance results in more productivity, high quality of care, and intent to remain in the organization, on the other hand when factors negatively influence nurses, it will lead to grievance, decreased productivity, poor performance and affects turnover intentions as well as absenteeism among nurses.

#### **Conclusion:**

Based on the present study findings it can be concluded that, communication with patient` information was mentioned by the majority of studied nurses. While almost two thirds of them mentioned environmental factors and developing methods skills factors that influencing the nurses` performance towards caring pediatric patients with respiratory disorders. Almost, there is a positive correlation between total knowledge level and factors influencing nurses` performance towards caring of pediatric patients with respiratory disorders. Moreover, there is a positive correlation between total practices level and total factors influencing nurses` performance towards caring of pediatric patients with respiratory disorders.

#### **Recommendations:**

In the light of the finding of the present study, the following recommendations are suggested:

- Periodical assessment in health care settings for factors that influencing care of pediatric patients with respiratory disorders.
- Enhance the nurses' awareness about factors that influence nursing performance toward caring of pediatric patients with respiratory disorders.
- Conducted further studied to assess the nurses knowledge and practice about caring of pediatric patients with respiratory disorders.

## References

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